LOUISIANA CIVIL ENGINEER

Journal of the Louisiana Section http://www.lasce.org

ACADIANA • BATON ROUGE • NEW ORLEANS • SHREVEPORT

Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM
2021-2022 ASCE LA Section President

FEATURE:

Property-Specific Flood Ri$k, Part I

Louisiana Section Awards

Like us on Facebook
@ascelouisiana

NOVEMBER 2021
VOLUME 30 • NO 1

TRANSITIONING FROM STUDENT TO PROFESSIONAL?

At ASCE we want to ensure we can serve you best based on your individual path forward. This is why we strive to maintain accurate information on whether you are graduating and starting your professional career or extending your studies.

STAY CONNECTED AFTER YOU GRADUATE

New Graduates

If you are a new graduate, you will need to upgrade your membership to continue to access the ASCE resources that will help you secure and succeed in your new role. To make this transition easy, we offer the first year of professional membership for free to existing ASCE student members and at a discounted rate of $50 for non-members.

https://www.asce.org/student_resources

LOUISIANA SECTION
AMERICAN SOCIETY OF CIVIL ENGINEERS
1852
1914

NEW ADVERTISING RATES (USD) PER ISSUE FOR THE LOUISIANA CIVIL ENGINEER

ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS

Subscription/Advertisement Dimensions (Horizontal × Vertical)

Professional Listing Card	(64mm × 35mm)	$225.00*
Services or Suppliers Ad Card	(64mm × 35mm)	$250.00*
Quarter Page Advertisement	(95mm × 120mm) (190mm × 60mm)	$300.00
Half Page Advertisement	(190mm × 120mm)	$550.00
Full Page Advertisement	(190mm × 240mm)	$950.00

** The minimum subscription/advertisement is for 1 year (4 issues) at $225 per year for professional listings and $250 per year for services and suppliers advertisements respectively.*

Advanced Advertising Discounts Per Issue

Number of Issues	1	2	3	4
Percent Discount	0%	5%	10%	15%
Quarter Page	$300.00	$285.00	$270.00	$255.00
Half Page	$550.00	$522.50	$495.00	$467.50
Full Page	$950.00	$902.50	$855.00	$807.50

---

http://www.lasce.org/publications/adrates.aspx

Inquiries regarding advertisements and professional listings may also be made by email to the Editor, Nedra Hains nedrahains@gmail.com

The Louisiana Section of the American Society of Civil Engineers was founded in 1914 and has since been in continuous operation. The Section consists of the entire state of Louisiana and is divided into four branches that directly serve over 2000 members. They are the Acadiana Branch centered in Lafayette, the Baton Rouge Branch, the New Orleans Branch, and the Shreveport Branch.

PUBLICATIONS COMMITTEE:
Kirk Lowery, PE, D.GE
Ali Mustapha, PE
Ronald Schumann, Jr, PE
Nedra Hains, MA, *Editor* (225) 333-8234

PUBLISHER:
Baton Rouge Printing, Inc., Port Allen, LA

Louisiana Civil Engineer quarterly journal is an official publication of the Louisiana Section of the American Society of Civil Engineers with an average circulation of approximately 2100. The Section neither guarantees the accuracy of the information provided nor necessarily concurs with opinions expressed. It does not claim the copyrights for the contents in this publication. Please submit letters and articles for consideration to be published by email to nedrahains@gmail.com or mail to the Publications Committee c/o Nedra D. Hains • 622 Steele Blvd. • Baton Rouge, LA 70806-5742.

www.lasce.org

Like us on Facebook
@ascelouisiana

TABLE OF CONTENTS

NOVEMBER 2021 • Volume 30 • No. 1

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

ASCE NATIONAL CONTACT INFORMATION:
Phone: 1-800-548-ASCE
E-Mail: gsd_master@asce.org

LOUISIANA SECTION • AMERICAN SOCIETY OF CIVIL ENGINEERS

Louisiana Engineering Center • 9643 Brookline Avenue • Baton Rouge, Louisiana 70809

SECTION BOARD OF DIRECTORS
President
Tonja Koob Marking, PhD, PE
GAEA Engineering Consultants, LLC
President-Elect
Kirk Lowery, PE, D.GE
Arcadis
Vice President
William A. Cenac II, PE
Ducks Unlimited
Secretary-Treasurer
Marcus D. Taylor, PE
Burk-Kleinpeter Inc
Past President
Joe E. "Butch" Ford, Jr., PE
Bossier Parish
Directors-at-Large
Brant Richard, PE
Thompson Engineering
Branch Directors
Grant Besse, PE
C.H. Fenstermaker & Associates, LLC
Tyler Branch, PE
Forte and Tablada Inc
Stephanie Bayne, PE
Digital Engineering
Luke Haney, EI
Burk-Kleinpeter Inc
Assigned Branch Directors
Jared Veazey, MS, PE
Lafayette Consolidated Government
Sarah L. Ollenburger, PE
CDI Engineering Solutions, LLC
Erin Rooney, PE
HDR Engineering Inc
Linsey Brooke Olivier, PE
Forte and Tablada Inc

SECTION COMMITTEES CHAIRS
Geotechnical Institute
Kirk Lowery, PE, D.GE
Arcadis
Government Relations
Jan Evans, PE
Volkert Engineering
History & Heritage
Tonja Koob, PhD, PE
GAEA Engineering Consultants, LLC
Miles Bingham, PE
URS
LA Coast, Oceans, Ports, & Rivers Institute
Erin Rooney, PE
HDR Engineering Inc
Utility Engineering & Survey Institute
John Matthews, PhD
Louisiana Tech University
Membership
David Martin, PE
H. Davis Cole & Associates, LLC
Public Contracts Task Force
Kam Movassaghi, PhD, PE
Publications
Kirk Lowery, PE, D.GE
Arcadis
Sections Awards
Brant Richard, PE
Thompson Engineering
Student Activities & Awards
Jerome M. (Jerry) Kleir, PE
GEC Inc
Transportation & Development Institute
Roy Payne, PE
Richard C. Lambert Consultants, LLC
Website
Jared Veazey, MS, PE
Lafayette Consolidated Government
Younger Member
Erin Rooney, PE
HDR Engineering Inc

BRANCH OFFICERS
Acadiana Branch President
Grant Besse, PE
C.H. Fenstermaker & Associates, LLC
President-Elect
Carolyn Chapman, EI
Chapman Consulting Inc
Treasurer
Emily Faulk, EI
Sellers & Associates Inc
Secretary
Rhett Hebert, EI
C.H. Fenstermaker & Associates, LLC
Public Relations/Outreach Coordinator
Jerry Outlaw
Ardaman & Associates Inc
Newsletter Editor
Colten Dore, EI
C.H. Fenstermaker & Associates, LLC
Webmaster
Jared Veazey, PE
Lafayette Consolidated Government
Calcasieu Parish Representative
Jacob Blackmer, EI
Louisiana DOTD
Past President
Algy Semien, PE
Louisiana DOTD

Baton Rouge Branch President
Tyler H. Branch, PE
Forte and Tablada Inc
President-Elect
Venu Tammineni, PE
Adaptive Management & Engineering, LLC
Vice President
Robert "Robb" Jewell, PE
Ardaman & Associates Inc
Secretary
Jack Koban, PhD, PE, PG
Fugro USA Land Inc
Treasurer
Josh Olivier, EI
Sigma Consulting Group Inc
Past President
Mary "Molly" Bourgoyne, MS, PE
DOTD Office of Multimodal Commerce, Ports & Waterways Section
Director of Programs
Matt Salmon, PE
Freese and Nichols
Education Director & Younger Member Chair
Denzel Flores, EI
Geoengineers Inc
Director of Membership
Taylor Brignac
Brignac Property Services, LLC
LSU Practitioner Advisor
Robert Nodier, EI
Forte and Tablada Inc
SUBR Practitioner Advisor
Ryan West
Entergy

NEW ORLEANS BRANCH
President
Stephanie Bayne, PE
Digital Engineering
President-Elect
Kyle Galloway, PE
GIS Engineering, LLC
Vice President
Erin Rooney, PE, CFM
HDR Engineering Inc
Past President
Andrew Woodroof, PE
Digital Engineering
Treasurer
H. Clay Worley, PE
Eustis Engineering, LLC
Secretary
Ayan Mehrotra, PE
Arcadis
Director at Large
Robert Rousset, PE
Ardamann & Associates Inc
James Williams, EI
Eustis Engineering, LLC

Shreveport Branch President
Luke Haney, EI
Burk-Kleinpeter Inc
President-Elect
Josh Walker, PE
Halff Associates Inc
Treasurer
Victor Bivens, EI
Halff Associates Inc
Secretary
Josh Reed, EI
Half Associates Inc
Past President
Linsey Brooke Olivier, PE
Forte and Tablada Inc
LA Tech Practitioner Advisor
Elizabeth Matthews, PhD

BRANCH TECHNICAL COMMITTEE CHAIRS
New Orleans SEI Chapter
Daniel F. Bobeck, PE
Basin LLC, Engineering & Surveying

Louisiana Civil Engineering Conference and Show (LCECS)
Rebecca J. Chopin, PE
Burk-Kleinpeter Inc

STUDENT CHAPTERS PRESIDENTS/FACULTY ADVISORS
La.Tech
Mallory Mankins
Elizabeth Matthews, PhD
LSU
Nathalie Dante
Chao Sun, PhD
McNeese
Alexis Nguyen
Janardanan (Jay) O. Uppot, PE
Southern
Jelani Smith
Ryan West
ULL
Aaron Enlund
Wayne Sharp, PE
UNO
Rai Joseph
Gianna M. Cothern, PE

REGION 5 BOARD OF GOVERNORS
Director
Mr. Lawren Pratt, PE, M.ASCE

Louisiana Governor
Rudolph A. Simoneaux, III, PE
LA Coastal Protection & Restoration Authority

Regional Governor At-Large
Ronald Schumann, Jr., PE
Integrated Logistical Support Inc

EDITOR
Nedra Hains, MA

The Louisiana Section is located in ASCE Region 5 that consists of the Louisiana, Mississippi, Alabama, Georgia, Florida Sections, and Puerto Rico

President's Message

By Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM

Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM

With honor and humility, I stand on the shoulders of past presidents of the Louisiana Section to serve as your President for the 2021-2022 year. Despite the strain of limited professional interactions over the past 20 months, Louisiana Section leaders continued to serve our members through hybrid virtual and in-person programs and online content. I pledge to continue the precedent set by Beau Tate and Butch Ford as past "Covid presidents" to bring value to our membership as we transition to a Section which offers the best of pre- and post-Covid technical and professional content opportunities.

This year is an exciting one for me with ASCE as I serve as your Section president and as the national chairwoman of the History and Heritage committee responsible for the society's National Historic Civil Engineering Landmark designations. With the encouragement of Chris Humphreys and Malay Ghose Hajra, I joined the Section board in 2015 as a Director. Prior to my Section tenure, I was a member of the New Orleans Branch board for 8 years, serving as its president in 2016. Over the past 6 years as a Section board member, I have had the opportunity to meet engineers from around the state, an opportunity I likely would not have had without ASCE. Volunteering with ASCE has expanded my personal and professional networks, and I encourage you to volunteer for ASCE activities as you are able.

In the aftermath of Hurricane Ida and its impacts on Louisiana's people and infrastructure, I am reminded of the necessity of civil engineers for a functioning society. While consulting engineers may love a natural disaster, disasters highlight the fragility of our infrastructure and the importance of civil engineers in building back better through lessons learned and forward visioning. We are experiencing a paradigm shift in design, one that is more adaptive, sustainable, and resilient than in the past; our citizenry is demanding that change and ASCE is leading the responsive charge. I challenge each of you to hear that call and provide responsive, innovative solutions to our present and future infrastructure needs.

Even as civil engineers lead the way in protecting the health and safety of the public, the public is relatively unaware of our contributions to their quality of life. Civil engineers have saved more lives than doctors simply through the engineering of reliable, clean, potable water, and yet, few in our profession know that, let alone members of the general population. We need to do better at education and outreach of our profession, not only through school STEM activities but also to the public at large. An educated populace will drive support of infrastructure funding at federal, state, and local levels, funding essential to bring our country's Infrastructure Report Card to a better than D+ rating. The Louisiana Section will support that effort through its state report card to be released Spring 2022. We need to be advocates of infrastructure funding, and I ask each of you to be an infrastructure ambassador.

Lastly, I encourage those of you who meet the requirements to become a Fellow of ASCE. Honoring your contributions to our profession through Fellow status is one of the many ways ASCE supports recognition of civil engineering achievements, an honor only 3% of our members share. Civil engineers have made life possible in Louisiana for centuries. As your president, I want our Section to honor your engineering achievements.

Thank you for this opportunity to serve as your president. I look forward to our progress even as we look back at our accomplishments.

ASCE®

American Society of Civil Engineers

LOUISIANA SECTION

Volunteer with ASCE!

With your help, we can continue to advance the civil engineering profession and serve the public good.

Whether you are interested in volunteering once or on a recurring basis, remotely or in person, as an ASCE member, you can dedicate your time and expertise to a cause that is important to you. Browse the opportunities below and filter based on your interests and needs to find the right fit, or check out our featured opportunities to see where help is needed now.

https://www.asce.org/communities/get-involved

Property-Specific Flood Ri$k, Part I

By: Bob Jacobsen, PE

Bob Jacobsen, PE

Introduction

Our fellow citizens and community leaders are growing increasingly frustrated with the escalating frequency and magnitude of extreme floods, and angry about accelerating financial losses. Advances in flood warning and evacuation are thankfully improving public safety. But, to reduce flood damages—apart from addressing climate change—we must first overcome the problematic approaches of the past 100 years, obtain a clear understanding of flood financial risk, and then proceed with both what we as property-stakeholders and what we through our government can and should do about flood financial risk.

The current flood risk mess is rooted in the absence of property-specific flood risk pricing—long available for other property-specific hazards—and hence in distorted flood financial risk perceptions and private and public decisions. Chief among the legacy distortions are developments in *"flood protection," "drainage,"* and the National Flood Insurance Program (NFIP) *"artificial ceiling."* The NFIP's new *Risk Rating 2.0* is a fettered, rudimentary, and tentative response. Fortunately, a real revolution in flood risk pricing is underway. The coming of sound property-specific flood risk pricing will intensify property-stakeholder responsibility for due diligence, insurance, and mitigation AND dramatically improve public flood risk mitigation and floodplain community resiliency in the face of climate change.

In ***Property-Specific Flood Ri$k, Part I*** we summarize **Important Concepts** in a basic glossary and "The Ten Steps for Calculating a Property-Specific Flood Ri$k." Reviewing these will be the worth time, whether your interest in flood ri$k is professional, personal, or both. In the next issue we will present ***Part II***, **The Revolution**, (which will be continued in the February journal) a short history of relevant developments, goals, technology, and government policies, which contributed to the current flood ri$k mess—and a quick peak into the dramatic changes underway leading towards a better flood ri$k mitigation future. The term *"ri$k"* is used specifically to denote direct financial risk. The term "*mitigation*" is critical because every property-stakeholder's flood ri$k—as with most ri$ks—can never be eliminated, only reduced!

Part I. Important Concepts

Basic Flood Ri$k Glossary

Hydrography

Waterbody: A natural or man-made channel (river, stream, creek, bayou, canal, etc.), pond, or lake, as well as coastal bay, sound, or ocean.

Network: A system of connected waterbodies; in a network map channels and ponds are represented with flowlines; large lakes and coastal waterbodies with shorelines.

Junction: Connection point/node in a network—such as a tributary channel joining a main stream or a river joining a lake or coast.

Reach: The portion of a channel flowline or lake/coast shoreline between network junctions.

Basin Watershed Catchment: The entire area contributing precipitation run-off to a particular network location—such as a river or stream terminal point—via overland drainage and flow in the upstream waterbodies. The neighborhood-scale drainage area associated with an individual reach or short channel is often termed a Catchment.

Flooding

Flood A rising water level associated with a waterbody or limitations in overland drainage.

Flood Types:

1. *Flash Flooding* in a local catchment from intense, short periods of *nearby rain*; especially rapid inundation of poorly drained, ponding areas.
2. *Downstream Flooding* from precipitation falling in upper, distant portions of watersheds and then collecting and flowing downstream and inundating the floodplains in lower portions. (The term flash also describes a downstream watershed flood confined within narrow channel banks that rapidly rises and falls.)
3. *Backwater Flooding* within the floodplain of a very mild-sloped tributary to a sluggish reach of a major river in flood, from flood flow piling up and sometimes reversing.
4. *Coastal Flooding* in floodplains of coastal waterbodies, including rivers, from extreme tides and prolonged high storm winds.

Flood Magnitude: The *location-specific* peak vertical level for an actual or potential flood—measured in elevation, height, or depth. Flood magnitude can also be characterized using the peak flow rate (also called the discharge).

Elevation : The standardized measurement of vertical distance with respect to a reference (datum). Elevation is used in vertical descriptions of ground topography, waterbody bathymetry, structures, and flood levels. The latter is referred to as Water Surface Elevation (WSE). In the past, physical geodetic benchmark monuments and river and coastal tide gauges were used as regional elevation references, which then had to be

transferred to points of interest by manual survey. Advances in satellite Global Positioning Systems and the adoption of a single nationwide reference known as the North American Vertical Datum of 1988 (NAVD88) now reduces the need for regional physical elevation references. Property-specific terrain elevations can often be determined to within a foot from free online sources that use Digital Elevation Models. They can usually be determined to within a tenth of a foot from a survey, for a modest cost. Conversions for river and tidal gauges to NAVD88 are available. For example: 1.35 feet must be subtracted from the WSE reported for the US Geological Survey Gauge at Denham Springs to convert to NAVD88. Local Mean Sea Level is at about 0.2 feet and 0.5 ft NAVD88 at Grand Isle LA and Lake Maurepas LA, respectively.

Height: The vertical distance between a point and the underlying or nearby ground point; equals the difference between the two elevations. Often used for peak flood level or point on a structure. Flood height refers to an exterior flood magnitude.

Depth: Often used by the public synonymously with height. However, with respect to buildings, flood depth refers to the *interior* flood magnitude: the vertical distance between a flood peak level and a bottom Damage Threshold; equals the difference in the two elevations.

Floodplain: The general area surrounding a waterbody subject to potential inundation from a flood. Larger magnitude floods typically occupy wider floodplain lateral extents. *There is no single floodplain area*.

High Water Mark: The peak WSE observed at a location from flood residue—e.g., a scum line on a wall.

Flood Inundation Map: A map depicting the maximum lateral extent *and the peak WSE* of a flood.

Peak Flood Profile: A graphed line depicting the peak WSE along a network or across a floodplain; presented with WSE elevation on the Y-axis and Distance on the X-axis.

Flood Profile Transition: An abrupt change or shift in the general slope of a flood profile line associated with a natural or man-made change in conveyance conditions—e.g., constriction/expansion, steepening/flattening, obstruction, bottom roughness/land cover. The latter includes changes in in-bank and over-bank type and density of vegetation. Important man-made sources of profile transition are floodplain embankments; bridges, culverts, debris, dams/weirs, gates, and channel improvement start/end points.

Flood Hazard and Risk

Flood Exposure: The flood types and magnitudes that a specific location is potentially subject to experience. Some locations are exposed to multiple types and some to multiple sources within the same type. Nearby locations can experience different flood elevations during the same flood event due to floodplain obstructions. Even where nearby locations experience the same flood elevation they can have different flood heights and depths due to different topographic and building elevation. *Therefore flood exposure should ALWAYS be considered location-specific*.

Cumulative Exposure Duration: The time period relevant to an individual or entity for considering potential flood exposure types, magnitudes, and consequences. For many important purposes cumulative flood exposure duration extends for decades. Examples include a 30-year mortgage, a 50-year planning horizon, and an 80-year lifespan.

Frequency (in years): The number of observed or estimated recurrences of a given magnitude flood over a number of years. A flood level estimated as being reached 10 times over a 5,000-year period has a frequency of 10 per 5,000. This equals a 1 per 500 years frequency.

Random Recurrence Assumption: An assumption that the particular years for a flood recurrence of a given magnitude are random—implying stable flood conditions year-in year-out, and that a flood recurrence of given magnitude has the same chance in any given year.

Annualized Frequency Annual Chance/Odds Annual Exceedance Probability (AEP): The location-specific frequency expressed *per single year* by converting to decimal or percent form. Under the above random recurrence assumption, *annualized frequency* is the same thing as *Annual Exceedance Probability* and *annual chance or odds*. The AEP for 1/500-years is 0.002—equal to 0.2 percent chance in any given year.

Return Period : The denominator in the 1/___years expression of annualized frequency. The Return Period for 10 times in 5,000 years is 500 years—often simply referred to as "500-year flood." *Because flood magnitudes have an equal chance of recurring each year, Return Period is NOT a cycle period.*

Flood Hazard: The potential for floods of various magnitudes: characterized by a *location-specific* mathematical relationship between increasing (more extreme) flood magnitude and decreasing (rarer) frequency. Sometimes flood hazard is *oversimplified* by referring to a single flood magnitude and its estimated probability. The *location-specific* probability for a flood magnitude can be specified for different flood types or combined into an overall flood hazard.

Full-Spectrum Hazard Curve: The wide range of potential location-specific flood levels and their associated probability; presented as a graphed curve with Magnitude on the Y-axis versus AEPs spanning from 10 to 0.01 percent, (or Return Periods of 10 to 10,000 years) on the X-axis, usually with a *logarithmic scale*.

Consequences: The adverse impacts of a flood, including fatalities; physical or mental harm; direct and indirect financial loss; land use, development, building restrictions; diminished unpriced social, cultural, historical, aesthetic, ecological, and personal assets.

Flood Risk: The potential for a flood consequence of various magnitudes: characterized by a relationship between increasing (more extreme) consequence magnitude and decreasing (rarer) frequency. While flood hazard is always location-specific, flood risk can be aggregated over a region.

Full-Spectrum Risk Curve: The wide range of potential flood consequence magnitudes and their associated AEPs, presented as a graphed curve with Magnitude on the Y-axis versus flood AEPs spanning from 10 to 0.01 percent on the X-axis. For economic/financial consequence Magnitude is in dollars ($).

Alternate Duration Exceedance Probability: For any AEP, the mathematically computable higher probability of recurrence over a longer, cumulative exposure duration—e.g., decade, century, etc. AEP—especially when referred to by the return period—can be "rare-sounding." For multi-decadal exposures the probability of a recurrence is tens of times higher than the annual chance. There is a 26 percent probability for a property experiencing a 1-percent AEP (100-year) flood level sometime during the course of a 30-year mortgage—greater than 1 in 4 chance. The chance for a location experiencing a 500-year flood during a 50-year period is close to 10 percent. The odds over a typical lifespan for experiencing a 1,000-year flood are 1 in 13.

Independent Exposure: Separate exposures with totally distinct chances—like separate coin tosses. Multiple independent exposures magnify the overall chance of recurrence. A community with 10 independent exposures has a 1 in 3 chance of experiencing a 500-year flood during a 20-year period.

AEP Floodplain: The lateral extent of the floodplain along a waterbody reach that will be inundated for a particular AEP flood; for example the 1 percent AEP (100-year) floodplain.

Floodplain Capacity: For any particular lateral extent of the floodplain along a waterbody reach there is a corresponding flood AEP that can be accommodated. Major changes in the waterbody, floodplain, watershed landscape, and climate alter the capacity.

Artificial Ceiling: The simplistic regard for a particular "rare-sounding" intermediate flood hazard level—such as the 1-percent AEP (100-year) –as a maximum flood scenario.

False Binary: The mistaken notion—associated with an artificial ceiling—that a location either is or is not subject to flood hazard.

Flood Ri$k (see The 10 Steps for Calculating a Property-Specific Flood Ri$k)

Flood Ri$k: Direct financial risk—the potential for direct expenses associated with flood damages to an asset's structure, contents, or operating condition— characterized by a relationship between increasing $ value of direct expenses and decreasing (rarer) probability. Direct expenses include clean-up, repair, rebuilding, restoration, replacement, and temporary relocation of the asset or user. Aggregate flood direct financial risk for a community or region is referred to as direct economic risk. Examples of indirect expenses not included in Ri$k are evacuation, lost income and productivity, long-term health care for post-traumatic stress, diminished permitted use, reputation.

Asset: Any physical, private or publicly owned thing of established monetary value. Examples include a home, detached garage, apartment, maintained landscape, swimming pool, store, warehouse, public building, power substation, road, water treatment plant, factory, pipeline, barn, farm field, playground, wildlife habitat area, etc. and also include furnishings, vehicles, appliances, artwork, equipment, materials, inventory, etc.

Fragility and Fragility Curve: A mathematical relationship between increasing total asset related expenses versus increasing flood magnitude; presented as a graphed curve with Total Expenses on the Y-axis versus Flood *Depth* on the X-axis.

Asset-Specific Full-Spectrum Hazard & Ri$k Curves: The Flood Hazard Curve provides the flood level in terms of the Flood Depths at the asset and the Flood Ri$k curve provides the $ Total Direct Expenses for the asset on the Y-axis. Values on the risk curve are equal to Hazard times Fragility: (Magnitude/AEP) X (Total Expenses/Magnitude)

Expected Annual Cost (EAC): The average per asset total direct expense per year—based on a *hypothetical large pool of similar independently exposed assets*, calculated by integrating the Full-Spectrum Ri$k curve.

Future EAC : Forecasts of important trends (hazard changes, asset changes, price inflation, etc.) are used to estimate future Full-Spectrum Hazard and future Fragility. These are combined to estimate the Future Full-Spectrum Ri$k and Future EACs.

Present Value: The lump sum amount set aside today and earning interest that will cover Future EACs for some appropriate time period.

Error

Error: All data and estimates are subject to two types of error: *bias* and *random error.*

Bias: Errors that have a consistent deviation (high or low) for some condition or circumstance—such as topographic or flood elevation estimates that are consistently low over a particular area. The terms accuracy/inaccuracy refer to bias error.

Random Error : Errors due to *uncertainty* in measurements and calculation methods—usually not consistently high or low. The terms precise/imprecise refer to random error. *Location-specific flood hazard data and estimates have so much uncertainty that they can be considered "scientific guesstimates."*

Law of Large Numbers (Sample Size): For flood risk estimates for a hypothetical, very large pool of similar assets, facing similar but independent exposures, many asset-specific hazard and fragility uncertainties can be thought of as "cancelling out." Hence the random error for aggregate estimates of the EAC and Present Value over a large pool is much lower than for the asset-specific EAC and Present Value.

Due Diligence, Insurance, Mitigation

Due Diligence: The responsibility of parties involved in a property transaction to exercise reasonable care to investigate and understand all material risks. *Due Diligence for property transactions therefore encompasses pricing asset-specific flood ri$k, and addressing asset-specific issues of flood hazard and fragility, including asset-specific uncertainties.*

Resiliency: A reasonable path and especially financial capacity for a timely recovery and resumption of property-related activities: including clean-up, repair, rebuilding, restoration, replacement, and temporary relocation.

Insurance: Pooling of payments (premiums) from a large population of property-stakeholders to cover their collective EAC; provides insureds with the financial capacity for recovery. For the insured, a sound and fair system of insurance effectively addresses three uncertainties of asset-specific Flood Ri$k: 1) the basic randomness of a flood recurrence, based on the odds given by their Full-Spectrum hazard estimate; 2) the

random error in the Full-Spectrum hazard estimate itself; and 2) additional random error in Fragility estimates. A system of flood insurance features government-oversight of commercial markets with private direct insurers and reinsurers and can include government-run programs. In a sound system insurers and reinsurers collect sufficient premiums to properly fund claims. A fair system has minimal property-specific EAC bias error in premiums—i.e., does not transfer risk.

Actuarial Cost Premium: Term within the insurance industry for the cost of insuring a particular asset or aggregate assets. In addition to using EAC, the industry also analyzes the history of actual damage claims. The total price for insurance coverage (premium) includes administrative costs and sometimes profit. An insurance premium reflecting modest bias error, administrative cost, and profit is generally close to the EAC.

Mitigation: Same as *Flood Ri$k Reduction*. Private or public investments that reduce flood hazard or asset fragility in order to reduce flood damages. For any flood mitigation measure, the actual Flood Risk Reduction benefit is equal to the reduction in Flood Ri$k Present Value. Mitigation is a sensible way to improve asset Resiliency when it provides a cost-effective reduction in Flood Risk Present Value. Design of mitigation measures for strictly asset-related risk often incorporate very modest margins for uncertainty.

Mitigation Feasibility Study: An analysis to define optimal mitigation measures—to provide the most reduction in Flood Ri$k Present Value versus the Present Value of the combined construction, operation, and maintenance costs of the measure—to "get the most bang for the buck." Public mitigation measures can include reducing impervious land surfaces and precipitation runoff, stormwater detention, levees and floodwalls, pump stations, channel improvements and diversions, asset fragility reductions, and relocations. Feasibility studies must also evaluate the adverse flood impacts of proposed mitigation measures on adjacent watersheds, as well as potential adverse economic, environmental, cultural, social, and other impacts.

Mitigation Failure Probability: When mitigation measures are present, the chance for underperformance/failure that is incorporated into estimates of flood hazard an ri$k, and into insurance premiums.

Flood Insurance First: Prior to mitigation investment, participation in sound flood insurance, with effective coverage at an actuarially reasonable cost, is considered the default or baseline option for resiliency. *To be feasible, a mitigation measure should reduce the aggregate cost of flood insurance by an amount at least close to the measure's cost.*

Protection: Measures specifically designed and implemented for public safety purposes and therefore 1) addressing the most extreme flood hazard levels AND 2) incorporating significantly conservative factors for uncertainty. Today most communities rely on Warning and Evacuation for public safety. *The term "Flood Protection" is inappropriate when referring to mitigation measures designed for Flood Ri$k Reduction.*

Drainage: Mitigation measures primarily for reducing localized catchment-scale flash flooding. These measures have historically been limited to modest flood hazard—AEPs on the order of 4 percent or higher (return period of 25 years or lower). Drainage designs for roads, bridges, and neighborhood stormwater conveyance infrastructure typically emphasize practicality and affordability. Catchment-scale drainage measures often have little impact on the catchment's extreme flood hazard levels. Decades of exposure coupled with errors in AEP estimates, minimal contingency factors, aging, lack of maintenance, presence of bottlenecks, increased land development and runoff, and climate change can highlight the limitations of drainage design. Drainage improvement in one catchment—especially an accumulation of many measures—can increase flood hazard in adjacent catchments.

Geographic Information System (GIS)

GIS: A computerized approach to developing and presenting digital maps—includes the associated hardware, software, data management, analytic tools, and display methods.

Digital Map: Map displayed with a computer (or smart phone) and organized with Layers of spatial information—such as aerial imagery, roads, jurisdictions, terrain, hydrography, flood inundation, etc. Each layer is either a collection of individual geometric *Features* or a *Raster*. Often referred to as "smart maps"—users can zoom and pan, turn Layers on/off, and alter the way Layers are displayed using symbols and colors, according to basic attributes or other related data. The GIS uses horizontal coordinates to define the locations and shapes of items displayed in map Layers—e.g., Latitude/Longitude.

Features: Features fall into one of three geometric (also called vector) classes: *Scatter Points*—for Layers which map specific point locations, such as river gauges; *Polylines*—for Layers which map linear features such roads, channel centerlines, shorelines, etc.; and *Polygons*—for Layers which map areas such as watersheds, jurisdictions, zip codes, and parcels. Polylines and Polygon boundaries are defined with vertices. The GIS manages associated tables of information containing a feature's basic attributes and related data.

Rasters: A very fine regular rectangular grid of cells covering an area. Attributes (bands) are associated with the grid and each cell has a value for each band. The value for each cell is displayed as a pixel on a screen or print-out, with different pixel fill colors representing different values. Aerial imagery is a raster with the pixel color value representing the natural color. Raster colors are often used to represent other values, such as a topographic elevation, flood inundation WSE, and land cover.

Digital Elevation Model (DEM): A raster with the pixel colors representing the topographic elevation in each cell. DEMs are developed with Light Detection and Ranging (LiDAR) aerial equipment and are typically available through the US Geological Survey (USGS) and other agencies.

Digital Terrain Model (DTM): A modified DEM raster incorporating waterbody bathymetry, enforcement of channels at bridges and culverts, as well as fine scale barriers (e.g., floodwalls).

Land Cover: A raster layer where pixel color values represent the type of natural or human-altered ground surface. Vegetated surfaces can include marsh, wetlands, swamps, and upland forests, which can be further broken down according to vegetation types and densities.

Modeling

Model Code: A computer program that performs a complex series of calculations to simulate (estimate) a flood scenario over a watershed. Model inputs include the area DTM, hydrography, land cover, and information about scenario boundary conditions, physical interactions, special conveyance features, profile transitions, and resolution. Typical model outputs include flood inundation map; peak flood profiles; flood maps and profiles at time increments (which can be animated), and location-specific time-series graphs of the flood WSE.

Scenario: The actual or hypothetical flood to be simulated. Simulations of past and pending flood events are termed hindcasts and forecasts. Hypothetical floods can include a wide variety of "what-if" storms (e.g., a rainfall event of some spatial and temporal distribution; a historic storm or hurricane but with a shifted location; etc.), as well as modifications to terrain, hydrography, land cover, physical interactions, conveyance features, and profile transitions.

Boundary Conditions: The scenario-specific flooding conditions at the upstream and downstream limits of the area being modeled, over the time being simulated, as well as the spatial and temporal distribution of precipitation (and wind if being modeled) over the area.

Physical Interactions: Particular hydrodynamic processes associated with various flood types, represented by the terms within equations and their parameters —such as precipitation losses, overland runoff, channel flow, two-dimensional floodplain circulation, pipe pressure flow, steep slope flow, hydraulic jump, tides, wind forcing, waves, friction, etc.

Special Conveyance Features: Examples include street drainage gutters and drop inlets, underground pipelines, tunnels, and pump stations.

Model Resolution: The typical size of a model calculation cell—model codes subdivide the drainage area into numerous calculation cells. Using smaller cells improves the spatial granularity and accuracy but increases the number of cells and computational requirements. A model application for a basin-scale mitigation feasibility study may require spatial resolution on the order of tens of acres; evaluations of neighborhood-scale flood ri$k may require sub-acre resolution. Today's advanced computers with multiple processing units can often handle millions of cells, which helps avoid oversimplification of models. In some applications, hydrologists may need to adjust model results (e.g., flood inundation map) with additional analysis in order to improve finer scale accuracy.

Model Code Suitability: Each particular model code and its calculations are suited to represent certain kinds of flood types and scenarios, drainage area sizes and terrains, boundary conditions, physical interactions, conveyance features, profile transitions, and resolution. A specific model code application takes into account model code suitability.

Model Application Sensitivity and Error Analysis: After a model code application has been setup for a particular drainage area and flood type, a few scenarios are selected (often including a hindcast) for testing small adjustments in equation parameters, as well as other inputs, within their ranges of uncertainty. The results of these adjustments are evaluated to gauge hyper-sensitivity to small changes in the inputs, and the potential compounding of error from various inputs. For the hindcast, model results are compared with flood observations to evaluate model application accuracy (bias) and precision (random error). Some calculation parameters may be adjusted to reduce bias if these adjustments are considered to be valid for other scenarios to be modeled. The process of adjusting parameters to reduce model bias is referred to as "calibration." Hydrologists are careful to note the various limitations in a model code application as it is often said that "all models are wrong; some are useful."

Hazard Analysis: The simulation of a large suite of hypothetical scenarios sufficient to prepare Full-Spectrum Hazard Curves throughout an area of interest. The scenarios represent a range of possible storm types, magnitudes, and spatial/temporal characteristics, together with current conditions (DTM, land cover, physical interactions, conveyance features, obstructions, etc.). Storms are defined and probability-weighted so that the suite represents a sufficiently long hypothetical record from which to assess extreme flood level recurrence frequency. Mitigation feasibility studies involve rerunning a hazard analysis with modifications to current conditions associated with the proposed mitigation measure. Mitigation and other planning studies also often involve rerunning a hazard analysis with modifications reflecting potential future climate, landscape, and other changes.

Targets Storms: A short-list of storm scenarios which is used for an abbreviated analysis. In some applications just a few scenarios may be appropriate to indicate potential conditions. Using a few target storms can be an efficient way to screen potential changes in flood results associated with modifying inputs. However, a few target storms cannot be substituted for Full-Spectrum hazard analysis. The use of target storms is subject to "cherry picking" scenarios that produce a distorted picture of flood ri$k reduction: for example including only scenarios that are likely to show a benefit from a proposed mitigation measure or regulation or no adverse impact from a proposed development.

The 10 Steps for Calculating a Property-Specific Flood Ri$k

A centuries-old, straightforward, mathematical method is used to calculate the Expected Annual Cost and Present Value for many property-specific ri$ks, such as for wind damage. The method consists of the ten standard steps listed below. An example is provided for a building exposed to flood hazard.

1. Define the asset(s) subject to the exposure and the relevant characteristics

Information is developed for the building type size, construction materials, finishing features, contents, etc.

2. Estimate the Fragility Curve

Total direct expenses are estimated for the range of flood *depths above the bottom damage threshold*, including temporary relocation expenses. Figure 1 shows the Flood Fragility Curve.

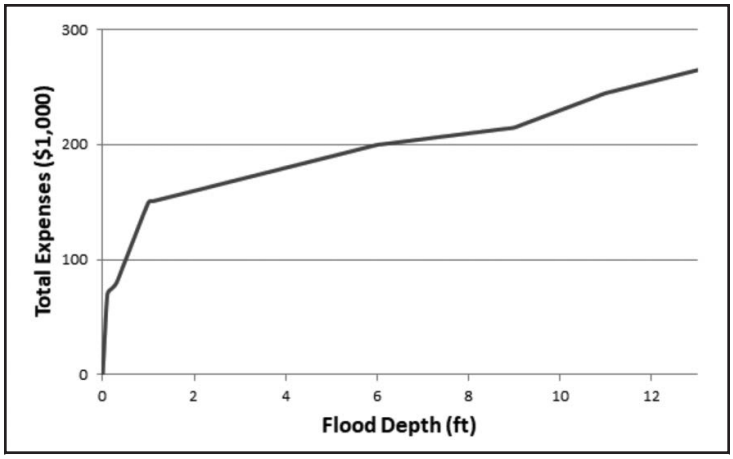


Figure 1. Flood Fragility Curve

3. Obtain a Reference Full-Spectrum Hazard Curve

A flood hazard professional provides a "scientific guesstimate" for AEP flood *elevations*, in feet NAVD88. Figure 2 shows an example Full-Spectrum Flood Hazard Curve with AEP on a logarithmic scale.

4. Translate the Reference Full-Spectrum Flood Hazard Curve to an *Asset-Specific Full-Spectrum Hazard Curve*

The reference flood *elevations* are converted to appropriate flood *depths* above the building bottom damage threshold. In this example, the threshold is at 37.2 ft NAVD88. Figure 2 also shows the Full-Spectrum Flood Hazard Curve in depth.

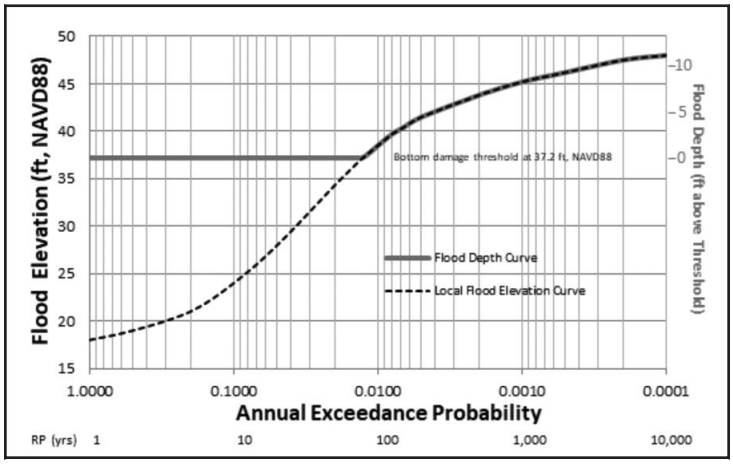


Figure 2. Full-Spectrum Flood Hazard Curve

5. Combine the Outputs of Steps 2 and 4 into the Full-Spectrum Ri$k Curve

Increments of ri$k are computed: $/AEP = $/ft @ ft/AEP Figure 3 shows the resulting Full-Spectrum Flood Ri$k Curve with Total Expenses vs AEP.

6. Convert the Full-Spectrum Ri$k Curve into the Expected Annual Cost (EAC)

The EAC is derived by numerically integrating the area under the Full-Spectrum Ri$k Curve. For the Full-Spectrum Ri$k Curve in Figure 3, the equivalent EAC is $2,308.

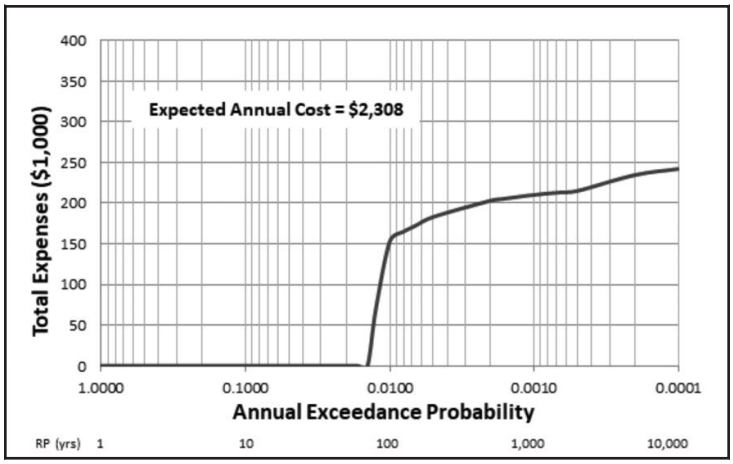
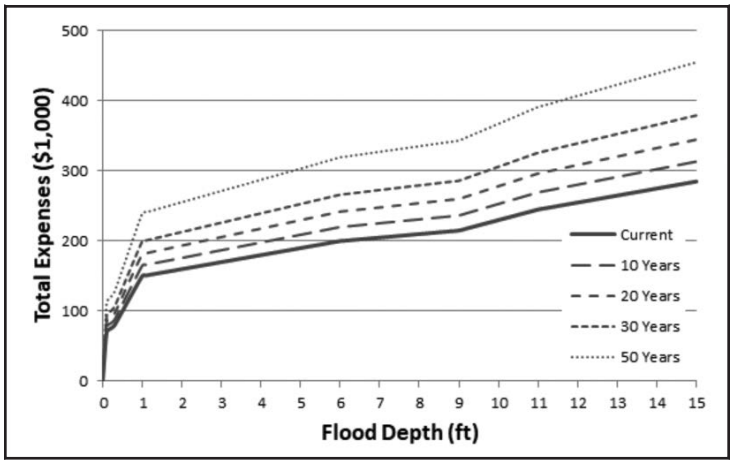


Figure 3. Full-Spectrum Flood Ri$k Curve

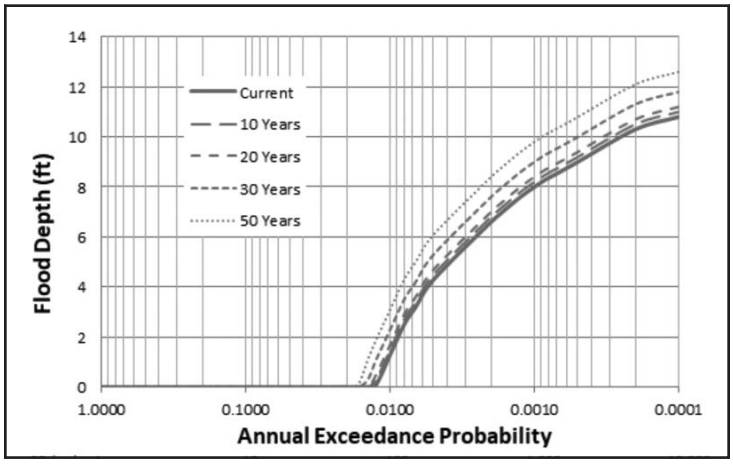
7. Factor in Changes to Estimate Future EAC

Figures 4a, b, and c show the Future Curves for Flood Fragility, Full-Spectrum Flood Hazard, and Full-Spectrum Flood Ri$k for 10, 20, 30, and 50 years. Figure 4c shows the Future EAC equivalent to each Future Full-Spectrum Flood Ri$k Curve.

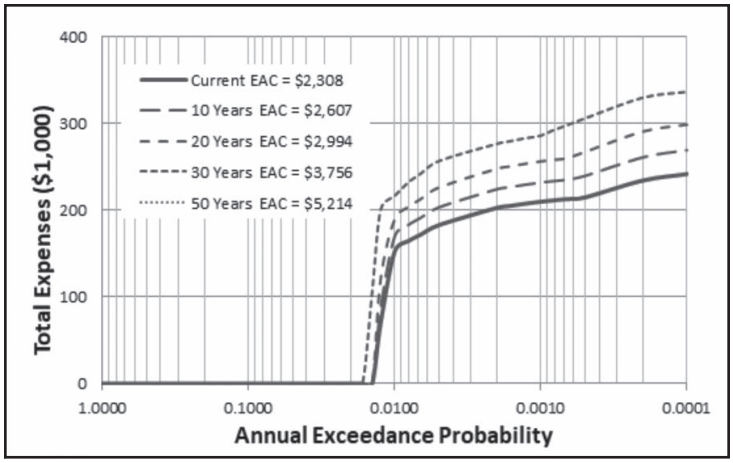
Figure 4. Future Curves



a. Flood Fragility



b. Full-Spectrum Flood Hazard



c. Full-Spectrum Flood Ri$k

8. Convert the Future Expected Annual Cost to Present Value (PV)

Figure 5 graphs the building Future Flood Ri$k EAC over 50 years using the values in Figure 4c. PV is a reserved lump sum sufficient to cover EAC withdrawals for a future period. For the example in Figure 5, the PV for 30 years of EAC at a 2% interest rate is $63,700

Estimate Uncertainty

Figure 5 also illustrates uncertainty in the Future EAC. In this example, the uncertainty shown for the PV estimate is about -20% to +30%.

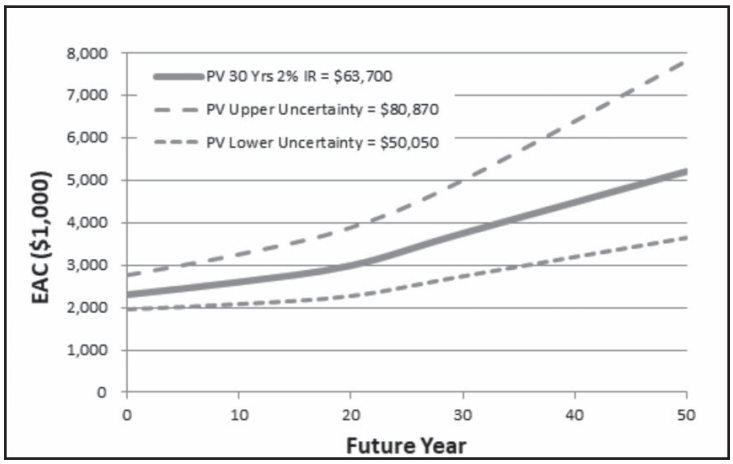
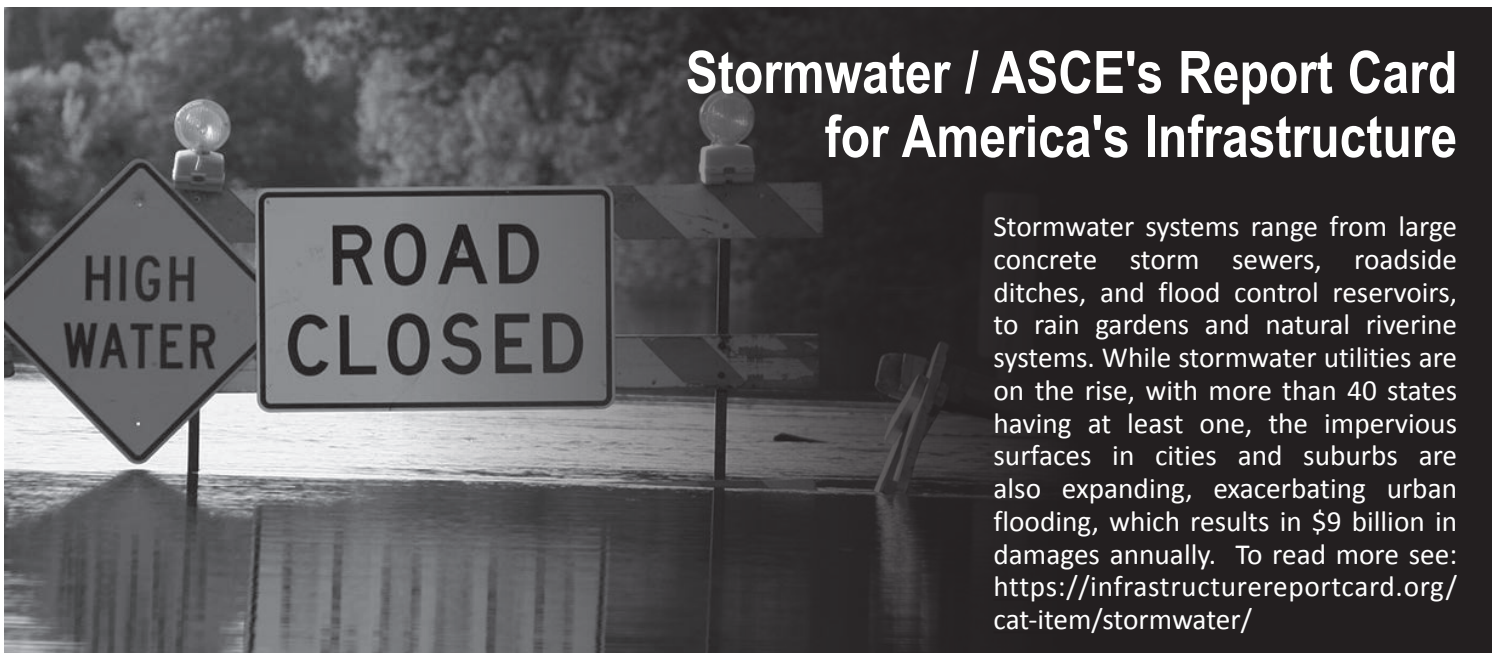


Figure 5. Future Flood Ri$k EAC

9. Determine the total property current and future EAC, the PV, and Uncertainty

If the property had additional assets subject to flood damage, their current EACs, PV, and uncertainty would be added to those for the building.

Bob Jacobsen PE, is a past-president of the American Society of Civil Engineers Louisiana Section. He has worked in hydrological risk (environmental and flood) for 40 years. He has served as a senior consultant on flood risk to the Amite River Basin Commission for over 15 years (including five major reports) and to the Southeast Louisiana Flood Protection Authority—East and Louisiana Coastal Restoration and Protection Authority during the Corps' construction of the HSDRRS, (three major reports). He authored a two-part article *Managing Hurricane Surge Risks in the Supercomputing Era, Part I: Pre-Katrina Evolution of Surge Hazard Estimation and Risk Management, and Part II: Post-Katrina Progress and Limitations in Surge Hazard Estimation and Implications for Surge Risk Management* for the 2015 Louisiana Civil Engineer Journal. He was also the lead author for *Hurricane Surge Hazard Uncertainty in Coastal Flood Protection Design* (Journal of Dam Safety, 2015). These reports, articles, and other related information can be found at his website: **www.bobjacobsenpe.com**. He can be reached at bobjacobsenpe@gmail.com .



Stormwater / ASCE's Report Card for America's Infrastructure

Stormwater systems range from large concrete storm sewers, roadside ditches, and flood control reservoirs, to rain gardens and natural riverine systems. While stormwater utilities are on the rise, with more than 40 states having at least one, the impervious surfaces in cities and suburbs are also expanding, exacerbating urban flooding, which results in $9 billion in damages annually. To read more see: https://infrastructurereportcard.org/cat-item/stormwater/

2021 ASCE Presidents and Governors Forum

Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM
President, Louisiana Section

On September 29-October 1, 2021, over 200 Section and Branch Presidents, Region Governors, Society Directors, Presidential Officers, and Institute and Institute Chapter Leaders from throughout the world attended the annual virtual Presidents and Governors Forum (PGF). This Leader Training Committee sponsored event provided opportunities for attendees to learn about ASCE resources, network with other ASCE leaders, discuss best practices, and develop skills that would benefit their Sections/Branches, Regions, and Institute Chapters.

The program began on Wednesday with a Welcome and Society Overview by ASCE President Jean-Louis Briaud, PE, PhD, D.GE, Dist.M.ASCE, President-Elect Dennis Truax, PhD, PE, DEE, DWRE, F.ASCE, F.NSPE and Executive Director Tom Smith, CAE, ENV SP, F.ASCE. Following the welcome was a dynamic presentation on Leveraging Conflict and lastly an open Q&A session with our President, President-elect, and Executive Director. On Thursday, we began with excellent information on an "Introduction to your Presidency and How to Utilize your Governors", followed by an enlightening talk from our General Counsel Tara Hoke, Esq on legal issues impacting our local groups, and concluded the day with an interactive exercise on Section, Branch and Institute Chapter Challenges and Presidential Plans.

On Friday, we opened the program with a session on Membership Recruitment and Retention and the new Student Member transition process followed by dynamic leadership presentation by the energetic Col. Jim O'Brien on transforming leadership philosophies into practice and ending with closing remarks from our President-elect-Elect Maria Lehman. PE, ENV SP, F.ASCE.

The ASCE National Convention

Tonja Koob Marking, PhD, PE, D.WRE, DFE, MBA, PMP, CFM
President, Louisiana Section

The ASCE National Convention was a virtual conference again this year held October 6-8, 2021. Over the three-day conference, speakers from around the United States and around the world presented thought-provoking sessions of the current and future states of infrastructure. Topics included natural and man-made disasters, modernizing the state of the industry and profession, exploring a future world vision, and sustainability and resiliency. Secretary of Transportation Pete Buttigieg shared his vision on the future of infrastructure in the United States while heritage sessions highlighted histories of three ASCE National Historic Civil Engineering Landmarks: The Blue Ridge Tunnel in Virginia, Matthes-Evans Mapping of the Grand Canyon in Arizona, and building Mackinak Bridge in Michigan. The closing keynote speaker was Dr. Moogega Cooper of NASA's Jet Propulsion Laboratory who took attendees on a ride aboard the Mars Perseverance Rover.

At the Friday night OPAL Gala, the Niagara Falls State Park Transformation Initiative earned the 2021 OCEA award, joining more than 50 years of award honorees celebrating innovative engineering. The silver winner was Boulder City, Nevada's Lake Mead Intake No. 3 Low Lake Level Pumping Station and Discharge Aquaducts project, and the Governor Mario M. Cuomo Bridge in New York City was the bronze winner. ASCE President Jean-Louis Briaud, PhD, commented, "These trophy winners demonstrate a level of ingenuity that inspires engineers to do their very best, while also providing essential services to their communities. Civil engineers have the power to solve problems, keep the public safe, and enhance livelihoods with their work."

Conference attendees will be able to view all conference sessions on demand through February 17, 2022.

DIVERSITY, EQUITY, & INCLUSION

ASCE Best Practices Resource Guide

The best practices resource guide promotes and fosters a vision that empowers ASCE to help create a civil engineering profession that is just, equitable, and inclusive for all. It is a living document designed to provide strategies for incorporating diversity, equity, and inclusion into ASCE activities and initiatives.

Access it online: https://www.asce.org/diversity-equity-and-inclusion

2021 ASCE Louisiana Section Awards and Officers Installation Meeting

The 2021 Louisiana Section Awards and Officers Installation Meeting was held on September 24, 2021, on Zoom conferencing video as a result of the COVID-19 social distancing. Section President, Joe E. "Butch" Ford, Jr., PE, called the meeting to order, gave the invocation, and welcomed everyone to the meeting. Section President Ford made the opening remarks and introduced Brant Richard, Section Awards Committee Chair.

Continuing the presentations, Louisiana Section Awards Committee Chair Brant Richard, PE opened the awards ceremony.

The ASCE Louisiana Section Awards were instituted to recognize the outstanding contributions of Louisiana civil engineers for service to their profession and ASCE. He thanked the branches for nominating an outstanding slate of candidates for consideration for each award. The quality of the nominees for the various awards made the awards committee's task to determine this year's award recipients very difficult. Brant also thanked the awards committee for their efforts in reviewing the numerous nominations and assisting in selecting this year's recipients.

This year's Section Award recipients were:

JIM COSTIGAN, PE – Outstanding Young Civil Engineer
CHRIS RICHARD, PE – Outstanding Civil Engineer
JOHN C. MATTHEWS, PhD, – Outstanding Civil Engineer Educator
JOSH OLIVIER, EI – Outreach Award
RONALD L. SCHUMANN, JR., PE – Lifetime Achievement Award
LARRY BROUSSARD, PE – Wall of Fame
DAVID THOMAS ISELEY, PhD, PE – Wall of Fame
HERODOTOS A. PENTAS, PhD, PE – Wall of Fame

After Brant presented the Section Awards, President Ford announced the final award of the ceremony, the **Jerry Klier** for his years of service to section serving as the student awards chair and on the SE levee board selection committee.

Rudolph Simoneaux III, PE, Region 5 Governor installed the officers for the Louisiana Section of the American Society of Civil Engineers.

ASCE LA Section 2021-2021 Officers:

Tonja Koob Marking, PhD, PE, President
Kirk Lowery, PE, President-Elect
Will Cenac, PE, Vice-President
Marcus D. Taylor, PE, Secretary-Treasurer
Joe E. "Butch" Ford, Jr., PE, Past President

The Board of Directors are:

Branch Directors
Grant Besse, PE, Acadiana President
Tyler Branch, PE, Baton Rouge President
Stephanie Bayne, PE, New Orleans President
Luke Haney, EI, Shreveport Director, Acadiana President

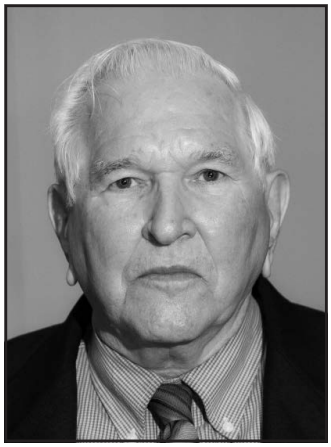
Assigned Branch Directors
Jared Veazey, PE, Acadiana Director
Sarah L. Ollenburger, PE, Baton Rouge Director
Erin Rooney, PE, New Orleans Director
Linsey Brooke Olivier, PE, Shreveport Director

Directors-at-Large
Brant Richard, PE, Baton Rouge Director

Regional Governor
Rudolph Simoneaux III, PE

Regional Governor At Large
Ronald Schumann, Jr., PE

Tonja Koob Marking, PhD, PE, the new Section President then congratulated the new board. Koob Marking closed the meeting by presenting her goals for her upcoming presidency and thanked everyone for attending.



Jerome M. (Jerry) Klier, PE – President's Medal

2021-2022 ASCE Louisiana Section Officers

Tonja Koob Marking, PhD, PE
President

Kirk Lowery, PE
President Elect

Will Cenac, PE
Vice President

Marcus D. Taylor, PE
Secretary-Treasurer

Joe E. "Butch" Ford, Jr., PE
Past President

2021-2022 ASCE Louisiana Section Board of Directors

Grant Besse, PE
Acadiana President

Tyler Branch, PE
Baton Rouge President

Stephanie Bayne, PE
New Orleans President

Luke Haney, EI
Shreveport President

Brant Richard, PE
Director-at-Large
Baton Rouge Director

Jared Veazey, PE
Assigned Branch Directors
Acadiana Director

Sarah L. Ollenburger, PE
Assigned Branch Directors
Baton Rouge Director

Erin Rooney, PE
Assigned Branch Directors
New Orleans Director

Linsey Brooke Olivier, PE
Assigned Branch Directors
Shreveport Director

Rudolph Simoneaux III, PE
Regional Governor

Ronald Schumann, Jr., PE
Regional Governor At Large

2021 Louisiana Section Awards

LOUISIANA ASCE SECTION OUTSTANDING YOUNG CIVIL ENGINEER
JIM COSTIGAN, PE
BS CIVIL ENGINEERING – 2015
UNIVERSITY OF WI-PLATTEVILLE

LOUISIANA ASCE SECTION OUTSTANDING CIVIL ENGINEER
CHRIS RICHARD, PE
BS CIVIL ENGINEERING - 1987
UNIVERSITY OF LOUISIANA LAFAYETTE

LOUISIANA ASCE SECTION LIFETIME ACHIEVEMENT AWARD
RONALD L. SCHUMANN, JR., PE
BSCE LOUISIANA TECH UNIVERSITY – 1978

LOUISIANA ASCE SECTION OUTSTANDING CIVIL ENGINEERING EDUCATOR AWARD
JOHN C. MATTHEWS, PHD
BS CONSTRUCTION ENGINEERING TECHNOLOGY - 2004 LOUISIANA TECH
MASTER CIVIL ENGINEERING – 2006 LOUISIANA TECH
PHD CIVIL ENGINEERING – 2010 LOUISIANA TECH

LOUISIANA ASCE SECTION OUTREACH AWARD
JOSH OLIVIER, EI
BS CIVIL ENGINEERING – 2017
LOUISIANA STATE UNIVERSITY

LOUISIANA ASCE SECTION WALL OF FAME AWARD
ACADIANA BRANCH
LARRY BROUSSARD, PE
BS CIVIL ENGINEERING – UNIVERSITY OF LOUISIANA LAFAYETTE 1984

LOUISIANA ASCE SECTION WALL OF FAME AWARD
DAVID THOMAS ISELEY, PHD, PE
BS CIVIL ENGINEERING -1973 UAB
MBA -1973 UAB
PHD – 1988 PURDUE UNIVERSITY

LOUISIANA ASCE SECTION WALL OF FAME AWARD
HERODOTOS A. PENTAS, PHD, PE
BS CIVIL ENGINEERING -1984 UAB
MSCE – 1985 UAB
PHD CIVIL ENG – 1990 LSU

ASCE-COPRI Louisiana Chapter News

By Gerald Songy, PE, Director – Communications

COPRI COAST, OCEANS, PORTS AND RIVERS INSTITUTE Louisiana Chapter

Gerald Songy, PE
Director – Communications

The Louisiana Chapter of the Coasts, Oceans, Ports, and Rivers Institute (L.COPRI) of the American Society of Civil Engineers (ASCE) promotes membership, professional development, and visibility throughout the State of Louisiana by conducting virtual webinars and in-person events.

L.COPRI Board Transitions

The 2021-2022 L.COPRI board has been finalized and our new board members are listed below. We would like to thank our immediate past chair, Tyler Ortego, for doing a great job leading us over the past year!

Chair: Erin Rooney

Vice Chair: Andrew Woodroof

Secretary: Myriam Bou-Mekhayel

Treasurer: Gerald Songy

Immediate Past Chair: Tyler Ortego

Scholarship Director: William Gohres

Communications Director: John Darnall

Programs Director: Brett McMann

YPG Director: Kiara Horton

Scholarship Announcement

L.COPRI received 13 scholarship applications over the summer from students at universities around the state. We would like to thank all applicants for taking the time to fill out and submit the scholarship applications. Students from the following universities submitted applications:

- University of Louisiana at Lafayette
- Louisiana State University
- University of New Orleans
- Tulane University
-

L.COPRI has awarded two scholarships, and would like to say congratulations to the following two students:

Undergraduate winner: Gloria Mullins (Louisiana State University)

Graduate Winner: Laura Manuel (Tulane University)

The scholarship winners were announced and recognized at the COPRI Fall Seminar in Baton Rouge on October 28th.

Events

Full-Day Fall Seminar - *Sustainable Solutions for Louisiana Resiliency*

L.COPRI hosted a full-day in-person seminar on Thursday, October 28, 2021 at the Lod Cook Hotel and Conference Center in Baton Rouge. A full schedule of speakers and panelists covered the four pillars of COPRI – Coasts, Oceans, Ports, and Rivers. Topics included: The future of wind energy in Louisiana and how our ports are preparing, replicability of the Lower Mississippi River Physical Model, natural carbon sequestration in coastal habitats, ethics, and more. Stay-tuned for a more detailed event summary in the next edition of the journal.

If you have any general event questions, please contact Programs Director John Darnall at JDarnall@southernshoreseng.com.

Other Information

The activities of L.COPRI includes seminars, workshops, and other activities to benefit all ASCE and COPRI members. Members do not have to be an engineer to join COPRI. The Institutes of ASCE are formed for the benefit of ASCE and non-ASCE members to participate and interact with other professionals interested in coastal, oceans, ports, and riverine efforts in Louisiana. We would like to extend an invitation to our members to submit feedback and ideas for upcoming webinars and events. Please submit these ideas to Brett McMann at bmcmann@thewaterinstitute.org, and stay-tuned for a meeting invite if you are a member of our L.COPRI email list.

ASCE-G-I Louisiana Chapter News

By Kirk Lowery PE, D. GE, Chapter Chair

Kirk Lowery, PE, D.GE
G-I Chair

The Geotechnical Institute of Louisiana had Liz Smith from Terracon Consultants, Inc. – Austin, TX present "Lessons Learned from Failures" virtually on October 19th. Elizabeth (Liz) Smith is a Senior Principal and National Transportation Program Manager at Terracon Consultants Inc. She has over 35 years' experience, including significant expertise related to geotechnical engineering for design-build transportation projects and slope and retaining wall failure evaluations and remediation.

The presenter reviewed retaining wall design considerations, and then several case histories of retaining wall and slope failures. From the histories, she presented:

- Retaining wall basics
- Why construction sequence matters
- What happens when things go wrong
- Why failures happen
- How to prevent failures

The Geotechnical Institute is currently planning a virtual presentation for the end of the fourth quarter of 2021 or early in the first quarter of 2022. If you would like to get involved or have any suggestions, please do not hesitate to email kirk.lowery@arcadis.com.

Louisiana CIVIL ENGINEERING Conference & Show

REGISTRATION IS OPEN NOW!

We are proud to announce the new dates for the 31st Annual Louisiana Civil Engineering Conference and Show. This event, a joint effort from the New Orleans Branches of ASCE and ACI, is the premiere gathering for the Civil Engineering community in the Greater New Orleans Area. The fall conference, which was initially scheduled for September 22-23, 2021, has been rescheduled for December 7 & 8, 2021 at the Pontchartrain Center in Kenner, Louisiana. We are in the process of soliciting sponsors and exhibitors for remaining opportunities, and confirming necessary changes to the technical program due to conflicts for the rescheduled dates.

For additional information on the conference, please visit our web site at WWW.LCECS.org

Janet L. Evans, PE
Government Relations Chair

AASHTO ELECTS DR. SHAWN WILSON AS PRESIDENT

AASHTO WASHINGTON—The board of directors of the American Association of State Highway and Transportation Officials today elected Dr. Shawn Wilson, secretary of the Louisiana Department of Transportation and Development, as the first African American president in the association's 107-year history. The board also elected Roger Millar, secretary of the Washington State Department of Transportation, as AASHTO vice president.

"This is truly an honor that I approach with tremendous humility and excitement," Dr. Wilson said. "I am looking forward to an incredible year with AASHTO and the great people I'll be working with at state departments of transportation around the country. One of the significant advantages of serving as AASHTO president is that it gives me a platform to address issues that matter."

Dr. Wilson, who served as AASHTO's 2020-2021 vice president, has served as secretary of the Louisiana DOTD since January 2016. He manages a workforce of 4,200 employees and a $2.7 billion budget. When he joined the AASHTO board of directors in 2016, Dr. Wilson recalls being the only African American seated at the table. Today, he is among six African American board members – a board that now also includes 13 female members. Dr. Wilson said that while those numbers are improving, his presidential emphasis areas address the need to do more. Entitled ***Pathways to Equity***, Dr. Wilson said this emphasis area is designed to intentionally expand opportunities within the state DOT community by creating a culture that identifies, trains, and empowers individuals in under-represented populations covering age, gender, ethnicity, and race.

"I'm interested in how we sustain that opportunity to achieve equity," Dr. Wilson said. "How are we, as state DOTs, building a bench of leaders that reflects the population in the communities we serve? How do we diversify, not just with race, but with gender, with disciplines? How do we change what we do as a department of transportation in a way that opens up the opportunity to recruit and retain a more capable, qualified, and inclusive professional workforce?"

Dr. Wilson's second emphasis area, ***Partnering to Deliver***, is an AASHTO and state DOT initiative designed to create partnerships with non-traditional organizations transportation-related and non-transportation specific. The idea is to embrace the richness of differing perspectives represented in the broader transportation community, enhance awareness and strengthen understanding.

Dr. Wilson has a bachelor's degree in urban and regional planning from the University of Louisiana, a master's degree in public administration from Southern University, and a doctorate in public policy from Southern University. A native of New Orleans, Dr. Wilson and his wife, Rocki, live in Lafayette, Louisiana. They have two adult children and two grandchildren. To learn more about Dr. Wilson, view his Presidential Profile video <https://www.youtube.com/watch?v=XqbRPIkXEF0> and read more about his 2021-2022 emphasis areas. <https://www.transportation.org/wp-content/uploads/2021/10/21_22-Dr-Wilson-EA-brochure_web.pdf>

AASHTO Vice President Roger Millar has led the Washington State Department of Transportation since his appointment in August 2016. He is a fellow of the American Society of Civil Engineers and a fellow of the American Institute of Certified Planners. He also serves as vice-chair of the American Society of Civil Engineers' Transportation and Development Institute and vice-chair of the Intelligent Transportation Society of America's board of directors.

Millar is also a member of the National Complete Streets Coalition Steering Committee, chair of the AASHTO Council on Public Transportation, and co-chair of the Cooperative Automated Transportation Coalition. He graduated from the University of Virginia in 1982.

Dr. Shawn Wilson receiving the gavel from Immediate Past President and Commissioner of the New Hampshire DOT, Victoria Sheehan | PRESS RELEASE AND PHOTO Provided by Joshua McNemar, Assistant to the Secretary for Policy & Governmental Affairs, Executive Office of the Secretary, Louisiana Department of Transportation & Development

ASCE-T&DI Louisiana Chapter News

By Michael Paul, PE - Newsletter Editor

TRANSPORTATION & DEVELOPMENT INSTITUTE
LOUISIANA CHAPTER

Mike Paul
T&DI Chair

Election of New Officers

The Chapter would like to acknowledge the contributions of our 2020-2021 officers. For the 2021-2022 fiscal year, Roy Payne has assumed the Chair position; Elba Hamilton will serve as Vice Chair; Jim Simmons will continue to serve as Treasurer; and Michael Paul will continue to serve as Newsletter Editor.

Louisiana T&DI Scholarship Program

One of the long-term goals of the T&DI Louisiana chapter was to start and sustain a scholarship program. That goal was achieved during 2012 fiscal year with the formation of a scholarship subcommittee. For the tenth year in a row T&DI plans to award two $500 scholarships; the funding is provided by using a portion of our seminar proceeds. The first announcement has been issued to various university civil engineering department heads across the state. Applications will be reviewed by the Executive Committee and awardees will be announced in the next Newsletter issue.

NEPA Process and Mitigation Banking for the LA 3241 Project, St Tammany Parish Virtual Seminar

On October 6 the T&DI Louisiana Chapter hosted a virtual seminar on the topic of NEPA Process and Mitigation Banking for the LA 3241 Project, St Tammany Parish Project. The LA 3241 Project is often referred to as the I-12 to Bush Project. The presentation highlighted the history of the Project as it related to the NEPA process. The presentation also discussed the tasks required to complete the mitigation required for the wetland permit which included mitigation banking.

The LA 3241 Project is currently under design and recently received a wetland permit from the US Army Corps of Engineers (USACE). When completed, LA 3241 will be a new controlled access, four-lane divided highway with a median. The LA 3241 Project consists of approximately 19 miles of new roadway and will connect I-12 to the community of Bush. The USACE prepared an Environmental Assessment followed by an Environmental Impact Statement for the LA 3241 Project. The LA 3241 Project will impact hundreds of acres of wetlands which necessitated the acquisition of a wetland permit from the USACE prior to construction, in compliance with Section 404 of the Clean Water Act.

The seminar was presented by Noel Ardoin, PE of LA DOTD. Ardoin started working for LA DOTD in 1994 in the Environmental Section and she was promoted to Section Administrator in 2006. Ardoin graduated from USL with a BS, from Georgia Tech with a MS in Chemical Engineering, and from Loyola with a JD and MBA.

Looking Ahead

The intent of T&DI is to promote transportation and development as a career path, and to provide training and networking opportunities for all professionals involved in the transportation industry. If you are interested in co-sponsoring a seminar at your branch, the T&DI Louisiana Chapter has prepared a Seminar Coordinator's Check List to assist you in your preparation. Contact Roy Payne rpayne@rclconsultants.com for a copy of the checklist. Historically our seminars are two hours in length and are typically presented from 5:30-7:30 pm in either the New Orleans or Baton Rouge areas. Recently our seminars have gone virtual and have been presented mid-day. In keeping with the intent of the Institute to provide training and networking opportunities for all professionals involved in transportation projects, the Chapter is planning the following future seminars:

- Green Infrastructure: Integrating Infrastructure Needs
- Convention Center Beautification
- Surface Transportation Resiliency
- New Mississippi River Bridge – P3 Financing and Tolling
- Asset Management for Agencies
- Bicycle Lanes / Complete Streets
- New Orleans Armstrong Airport
- Hurricane/Emergency Evacuation Planning
- I-10 / College Drive Flyover
- Storm Water Management

ASCE-UE&S Louisiana Chapter News

By Ali Mustapha, PE, F. ASCE - Newsletter Editor

UTILITY ENGINEERING & SURVEYING INSTITUTE
LOUISIANA CHAPTER

John Matthews, PhD
UESI Chair

Chapter Officers 2021-2022

Chair: Dr. John Matthews, PhD, M.ASCE
Matthews@latech.edu
Vice Chair: Suzanne McCain, PE, LSI, M.ASCE
Suzanne.mccain@T2ue.com
1st Vice Chair: Dr. Amin Azimi, PhD
azimi@latech.edu
Secretary/Treasurer: Ali Mustapha, PE, F.ASCE
alimm@bellsouth.net

The Louisiana Chapter of ASCE Utility Engineering and Surveying Institute – Louisiana Chapter ("UESI-LA") was established in 2020 to offers professionals working within the utility, pipeline engineering, and surveying/geomatics communities the opportunity to network with others and shape the future of the industry by participating in technical activities, conferences, and the development of internationally recognized standards.

Membership in UESI-LA Chapter is available to current Louisiana Section of ASCE members who select UESI as their primary or secondary Institute, as well as new ASCE members that select UESI as their primary Institute. As an ASCE member, you can join one Institute at no additional cost or add a second institute for just $30 per year.

UESI Membership for other than ASCE members (technicians, vendors "salespeople", and other non-engineers involved in utility and surveying and mapping practices) is available for only $135 per year membership fee.

The Chapter held its fourth seminar on October 21, 2021, virtually by Zoom and it was attended by 66 ASCE members who were awarded 1 PDH for attendance.

Seminar Topic: Ground Penetrating Radar (1 PDH), Introduction to how utilize GPR for Design, Project Investigation, and Emergency Use along with the expectations from the results of a GRP survey.

Presenter: Zack Raley, M.ASCE & UESI, Owner Utiliserve, LLC and Fireserve Group, LLC.

UTILISERVE FIRESERVE

Raley is a graduate of LSU-Shreveport with a Master's in business administration and is the owner of Utiliserve, LLC and Fireserve Group, LLC companies located in Bossier City. He is a member of ASCE and UESI, AWWA, WEF, LRWA, and Louisiana Conference of Water and Wastewater.

Dr. John Matthews receives LA Section Outstanding Educator Award from Ali Mustapha, PE, F.ASCE

Congratulations to John Matthews, PhD, ASCE-LA Section UESI's Chapter President for receiving the LA Section of ASCE 2021 Outstanding Educator of Year. Dr. Matthews is the Director of the Louisiana Tech University Trenchless Technology Center and is Associate Professor in the Civil Engineering and Construction Engineering Technology Department. He is an outstanding educator, leader, engineer and monitor to graduate and under-graduate students.

The Chapter is developing a plan to continue conducting Quarterly virtual meetings (seminars) and is asking interested ASCE and UESI members for recommendations of topics and speakers for these virtual seminars. Also, the Chapter is asking for volunteers to serve on the Chapter's Board and committees to help in organizing a successful institute that will meet the needs of all the Section members and serve the industry, State, and local Municipal Governments.

ACADIANA BRANCH

By Grant Besse, PE, Branch President

With Covid restrictions lessening, the Acadiana Branch Board is working to bring back our normal events schedule. November will start our regular in-person events with a luncheon research presentation from Dr. Habib (November 11th) and an evening ethics presentation by Byron Racca at McNeese (November 19th). The Acadiana Board is looking forward to these anticipated and well-missed in-person events.

Looking forward, we're anticipating a busy 2022 and are looking forward to providing the local branch with ample opportunities for networking and learning as we get back into our luncheon routine. We are planning on having another golf tournament, not seen since 2019, and continuing our monthly luncheons. Additionally, we're working to increase our younger member participation and are looking into having additional networking activities in addition to our typical luncheons including disc golf or beach volleyball. If anyone is interested in helping organize these events together with the board, please reach out to any of the board members.

The new 2021-2022 Board for the Acadiana Branch of ASCE is:
President: Grant Besse, PE
President-Elect: Carolyn Chapman, EI
Treasurer: Emily Faulk, EI
Secretary: Rhett Hebert, EI
Past President: Algy Semien, PE
PR/Outreach Coordinator: Jerry Outlaw
Newsletter Editor: Colten Dore, EI
Webmaster: Jared Veazey, PE
Calcasieu Parish Representative: Jacob Blackmer, EI

I hope everyone is staying well and look forward to seeing everyone at our upcoming in-person events.

SHREVEPORT BRANCH

Luke Haney, EI, President of Shreveport Branch

The Shreveport Branch ended its fiscal year with a luncheon at the Petroleum Club in Shreveport. The current Director of the Shreveport Water and Sewage Department, William Daniel, gave an update on the progress of Shreveport's ongoing consent decree. The engineers in attendance learned more about the history as well as the future of the consent decree program. Joe Darlington, Program Manager with Burns and McDonnell, presented on some upcoming projects and opportunities for civil engineers in the city to engage in the rehabilitation efforts underway.

We are excited to kick off this fiscal year with a Golf Tournament Fundraiser on October 15! The pandemic put a pause on our annual (usually spring) tournament, but we are expecting a good turnout for the fall return. Stay tuned for updates on the tournament in our next journal article! We look forward to more opportunities for lunches and events as we progress through the 2021-2022 year!

The new 2021-2022 Board for the Shreveport Branch of ASCE is:
President: Luke Haney, EI
Vice President: Josh Walker, PE
Treasurer: Victor Bivens, EI
Secretary: Josh Reed, EI
Past-President: Linsey Olivier, PE

Victor Bivens, EI

Josh Reed, PE

Josh Walker, PE

Linsey Olivier, PE

BATON ROUGE BRANCH

By Tyler H. Branch, PE, Branch President

As incoming President, I would like to acknowledge our now Past-President, Mary "Molly" Bourgoyne, PE on her service and dedication to ASCE and the engineering profession. I have served on the ASCE Baton Rouge Board with Molly since 2015. She welcomed me as she does everyone she meets, with genuine kindness and warmth. She never hesitated to get involved, no matter how challenging the task may have been. She rose to the occasion this past year by leading with her great attitude, her ability to "roll with the punches", and her supreme organizational skills.

Under Molly's leadership, along with the help of our Director of Programs, Jack Koban, PhD, PE, PG and our Director of Membership, Matt Salmon, PE we were able to continue holding our luncheons in a hybrid fashion. Our October Luncheon was hosted at Drusilla Seafood Restaurant in collaboration with LES and ASBPA. We were proud to host US Senator Bill Cassidy, MD, who spoke to our groups about the bipartisan Infrastructure Investment and Jobs Act and its potential benefits to Louisiana. Additionally, the new ASCE Baton Rouge Branch Officers were installed by ASCE Region 5 Governor, Rudy Simoneaux, PE.

Sen. Bill Cassidy, MD gives an update on the 117th Congress to the Baton Rouge Branch

The new 2021-2022 Board for the Baton Rouge Branch of ASCE is:
President: Tyler Branch, PE
President-Elect: Venu Tammineni, PE
Vice President: Robb Jewell, PE
Secretary: Jack Koban, PhD, PE, PG
Treasurer: Josh Olivier, EI
Past President: Mary "Molly" Bourgoyne, PE
Programs Director: Matt Salmon, PE
Education Director & Younger Member Chair: Denzel Flores, EI
Membership Director: Taylor Brignac
LSU Practitioner Advisor: Robert Nodier, EI
SU Practitioner Advisor: Ryan West

Our upcoming events include a Luncheon on December 2nd, with in-person and virtual options available. We will not be able to host our Christmas Party this year, due to concerns surrounding COVID-19. However, we hope to have an event for our membership in the Spring.

I am truly honored to serve as ASCE Baton Rouge Branch President this coming year. I look forward to the events ahead and representing our organization well.

Past President Molly Bourgoyne presents the 2021-22 President Tyler Branch the gavel

Molly accepts the gavel and Past Presidents Pin from Tyler

Jack Koban, Sen. Cassidy, MD, Molly Bourgoyne, and Tyler Branch

Rudy Simoneaux, Region 5 Governor swears in the Baton Rouge Branch

NEW ORLEANS BRANCH

By Stephanie C Bayne, PE, Branch President

As the 60th President of the New Orleans Branch of ASCE, I am excited to report we have been planning a number of events even through these difficult times. On August 20, we had our Annual Board Installation and Awards Banquet and honored our 2019-2020 and 2020-2021 Award Winners. Just a few days after the Banquet, the new Board and committee members met virtually to set up a tentative calendar for the year. This will help us stay on track to provide the best benefit to our members.

Shortly after those meetings, Hurricane Ida made landfall on August 29. Our plans for September had to change. Even with this disaster, the Board was able to meet virtually and conduct our regular board meeting a couple weeks after the storm. The Branch is currently in the midst of a matching donation campaign to support Hurricane Ida relief efforts. When members show they have donated to the Cajun Navy Ground Force, Second Harvest Food Bank, or United Way of Southeast Louisiana, the Branch will match their donation up to a total of $2,500. The Board started this campaign by donating $250 to each of these organizations. It was decided these three organizations would make the greatest impact on recovery in the Branch's geographical area. This was done in lieu of the Fall Conference that was supposed to be held September 22-23 in Kenner, LA. The Louisiana Civil Engineering Conference and Show has been rescheduled for December 7-8. Registration is still open for this event.

On October 20, Lawrence H. Roth, PE, GE, ENV SP and Charlie Wildman, PE, PG, both of Arcadis, will be presenting virtually on the impact of climate change and how civil engineers should (and need) to account for it in design. On October 27, the Branch will be hosting its Fall Social at Wrong Iron. The last social we hosted there had a great turnout. It was a great opportunity to network, which has been hard to come by in the last year or so.

Our Younger Members Group has started a team for Kickball with the playNOLA League at City Park. The season ends December 9. You can stay up-to-date with their progress by following us on Facebook and LinkedIn. In addition to kickball, the Younger Member Group is still planning on having their annual Leadership Panel in mid-November.

You can stay informed by following us at ASCE New Orleans on Facebook, on LinkedIn at ASCE New Orleans Branch, or our website (www.asceneworleans.org). If you have any questions, comments about how we can serve you better, or would like to get involved, please contact us at ASCEneworleans@gmail.com.

Thank you to our 2020-2021 Board for all of your hard work last year, especially our current Past-President, Andrew Woodroof. I'm looking forward to a great year!

Congratulations to our 2020-2021 Award Winners and 2021-2022 Board.
Outstanding Young Civil Engineer: Jim Costigan, PE
Outstanding Civil Engineer: Wesley Eustis, PE, PLS.
Outreach Award: James Williams, EI
Lifetime Achievement Award: Ronald L. Schumann, Jr., PE
President's Medal: James Williams, EI

2021-2022 New Orleans Branch Board
President: Stephanie C. Bayne, PE
President-Elect: Kyle Galloway, PE
Vice-President: Erin Rooney, PE
Treasurer: Clay Worley, PE
Secretary: Ayan Mehrotra, PE
Director At-Large: Robert Rousset, PE
Director At-Large: James Williams, EI
Past-President: Andrew Woodroof, PE

Branch Technical Committee Chairs
Louisiana Civil Engineering Conference and Show (LCECS)
Chair: Rebecca J. Chopin, PE
New Orleans SEI Chapter: Daniel F. Bobeck, PE

ASCE Louisiana Section felt it prudent to give back to the communities hit hardest after Hurricane Ida made landfall in Louisiana August 29, 2021. The President of the New Orleans Branch, Stephanie Bayne, was able to deliver the Louisiana Sections's donations of $2,500 to Second Harvest Food Bank and $2,500 to United Way of Southeast Louisiana this October.

2021-22 New Orleans Branch Board

New Orleans' Branch President Stephanie Bayne donates to Second Harvest Food Bank

New Orleans' Branch President Stephanie Bayne donates to United Way

ASCE-SEI New Orleans Chapter News

By Mark Castay, PE

Mark Castay, PE

As we approach the fall and look forward to wonderful outdoor temperatures and enjoying the holiday season with family and friends, the SEI New Orleans chapter has been preparing for several upcoming seminars. The next seminar will be "Design of Concrete Structures using Strut and Tie Models" and held on October 28, 2021, 12pm-1pm presented by Dan Kuchma, PhD. This seminar will be the 2021 David Hunter Lecture which the Chapter gives annually. The session is to honor the late David Hunter who was one of the founding members of the ASCE Structural Committee of the New Orleans Branch and served on its Executive Committee (1991-1999). Each year the SEI New Orleans Chapter Executive Committee selects a distinguished presenter to deliver this lecture which has been a tradition since 2000.

Dr. Kuchma is a Professor at Tufts School of Engineering in the Civil and Environmental Engineering Department where he has held faculty positions since 1997-present. He has received numerous awards from the National Science Foundation (2001), American Concrete Institute (2003, 2004), Precast/Prestressed Concrete Institute (2008, 2010, 2013) in addition to faculty and teaching awards from the University of Illinois at Urbana-Champaign where he is currently teaching.

Dr. Kuchma will review the use of strut and tie models as both a design and analysis tool. Application of truss models will be examined for a wide breadth of applications and key steps in establishing a suitable model. The limitations of the model as a plastic truss will be explored in addition to differences in stress limits and dimensional definitions prescribed by current code methodology. Differences in strut and tie models will be compared with traditional sectional design approaches.

The Chapter assisted in recruiting several speakers for the 2021 Louisiana Civil Engineering Conference and Show which was postponed and will be held December 7 & 8, 2021. Norma Jean Mattei, PhD, PE (Professor University of New Orleans) will be presenting "Structural Failures - How Do We Learn from Past Mistakes" in addition to an ethics topic titled "Planned Obsolescence: an Ethics Issue or Just a Pain in the Neck". Anthony Schoenecker, PE (Modjeski and Masters, Inc.) will be presenting "Emergency Pin-Joint Rehabilitation of the St. Claude Avenue Bridge". More information regarding the conference can be found at https://www.louisianacivilengineeringconference.org/

The Chapter will be working on new seminars for the fall and winter months of 2021, please visit www.asceneworleans.org/events for updates on the future seminars.

Student Chapter News

LOUISIANA TECH UNIVERSITY

By Mallory Mankins, ASCE Student Chapter President

The American Society of Civil Engineers student chapter here at Louisiana Tech has had a great start to the Fall Quarter! We have had several organizational browses which has brought in many more new members and gotten us much more involvement.

We have started having weekly paddling practice for concrete canoe to get our new members equipped to the differences in this and a regular canoe! We have also designed what this year's canoe is going to look like and plan on cutting the mold soon to get working on getting it ready for this year's competition. We have also had weekly mix designs to determine what the best mix is going to be to meet all of the requirements of this year's competition.

Our steel bridge team has also started on their analysis and design for the upcoming competitions. We wanted to get a head start on designing this year to maximize our performance!

Some of our officers have helped with the Golf Tournament that the ASCE Shreveport Branch held to be able to make this year successful. They helped with setting up, driving golf carts to serve drinks to the participants, and with setting up for lunch as well as serving lunch!

If you are interested in getting involved, please reach out to asce.louisianatech@gmail.com.

UNIVERSITY OF NEW ORLEANS

By Rai Joseph, Student Chapter Secretary

The University of New Orleans ASCE Student Chapter experienced quite an eventful start to the Fall semester. The arrival of Hurricane Ida in New Orleans, not long after the semester's commencement, caused the University to close from August 30th to September 13th, resulting postponement of our planned events. Despite this unfortunate event, the UNO Student Chapter remained engaged with its members through our Instagram page and Discord server.

The 2021-2022 Board for the UNO Student Chapter of ASCE:
President: Yelitza Perez
Vice President: Amanda Darda
Secretary: Rai Joseph
Treasurer: Sarah Chiasson
Social Chair: Karena Grigenas
Conference Chair: ohn Guidry

Since our return to campus in person, the UNO Student Chapter has been focused on promoting our society and integrating the core values of this organization into our members. We have received positive feedback through our social media platforms and hope that it will continue, as well as increase with the addition of our new Twitter page. The UNO Student Chapter hosted a seminar on November 19, 2021, at the University's Auditorium, this was primarily an outreach event for non-members to get acquainted with our organization. The seminar was an introduction to the ASCE Society, which featured a guest speaker from the ASCE New Orleans Branch. The UNO Student Chapter also discussed upcoming social events such as the Bayou Regional Career Fair, which will be a great opportunity for our members to network. The UNO Student Chapter officers were excited to share our vision for this organization, a vision focused on equipping members with essential tools that will make them better students, engineers, and leaders.

UNO Student Chapter Board (Left to right): Rai Joseph, Karena Grigenas, Amanda Darda, Sarah Chiasson, Yelitza Perez, and John Guidry

LOUISIANA STATE UNIVERSITY

By Nathalie Dante, Student Chapter President

Since the start of the school, we have held two in-person meetings with sponsors Kimley Horn and Menard Group USA. We have also had a successful and fun social game night with student members on October 14, 2021. Each meeting has gathered around 30 – 40 students with great participation and interest in other ASCE activities and company outreach. Steel Bridge and Concrete Canoe has also been under preparation under our officers Eli Barbin and Madalyn Mouton, respectively. The Bayou Regional Career Fair was held on Thursday, November 4, 2021, and had 8 registered companies, gathering 150 – 200 students. Our officer Peyton Fury has done an excellent job in company outreach and in ensuring that the Fair was a success and beneficial to all.

From here on out, there are two remaining meetings to be held with an upcoming volunteer opportunity. Fenstermaker and W G Yates & Sons Construction are the expected sponsors to present to ASCE Student Body on October 28th and November 11th. Six students volunteered on October 16, 2021, for Habitat for Humanity of Greater Baton Rouge. On our October 28th, the ASCE Baton Rouge Branch president, Tyler Branch, and other board members attended our meeting to introduce and breakdown the relationship between the BR professional branch and the LSU student chapter. On this same date, will Suresh Moorthy, PhD, PE of the LSU Civil Department spoke about senior checkouts and scheduling advising as he has previously done in prior semesters.

The roster for the new board is still yet to be determined as our election is being held on October 28th. However, upon the result to be received and reviewed on October 28th, the new officers will be under training and be well informed to take over for the coming year. They will be the ones to conduct the final meeting on November 4th so that current ASCE student members are able to recognize and acknowledge our new and old officers.

The current 2021 officer roster till January 2022 is as follows:
President: Nathalie Dante
Vice President: Hong Zhu
Secretary: Tashfia Shehzabin
Treasurer: Cody Harris
Career Fair Chair: Peyton Fury
Meeting Coordinator: Eli Barbin
Recruitment Chair: Madalyn Mouton
Volunteer Chair: Shaohan (Louis) Zeng

ASCE@LSU meeting with Kimley Horn on September 16, 2021

ASCE@LSU meeting with Menard Group USA on September 30, 2021

UNIVERSITY OF LOUISIANA LAFAYETTE

By Aaron Enlund, UL Student Chapter President

This month LES hosted a flag football tournament between all the departments in the college of engineering. The civil department had an excellent turn out and had enough players to split into two teams. After some hard-fought games, one of the civil department teams managed to place second in the tournament. This helped us get to know other members in the chapter better since the pandemic had everything shut down for so long. Also, a couple of our chapter members traveled to Lake Charles to team up and play beach volleyball with the McNeese chapter. We had so much fun and look forward to co-hosting other events with them in the future.

Members of the ULL Civil Department Flag Football Team

MCNEESE STATE UNIVERSITY

By Alexis Nguyen, McNeese Student Chapter President

This month has been full of recruiting fresh and familiar faces, organizing events and meetings, and rebuilding a strong foundation for our McNeese civil engineering family.

Meet our 2021-2022 McNeese Student Chapter ASCE officers:
President: Alexis Nguyen
Vice President: Juan Castano
Secretary: Madison Fontenot
Treasurer: Connor Moyor
SGA Representative: Connor Broussard
Social Media Director: Pavel Kraus.

The ULL Student Chapter President, Aaron Enlund, and I have been planning upcoming socials between the MSU and ULL ASCE chapters. We hope to bring our chapters together to strengthen bonds and form meaningful connections in our civil engineering society. One of the socials will be held at ULL for a movie night to watch "Dream Big: Engineering Our World," a film produced by **MacGillivray Freeman** in partnership with the American Society of Civil Engineers. The other social will be held at South Beach Volleyball in Lake Charles for a fun and energetic afternoon of beach volleyball, spike ball, and cornhole.

The MSU ASCE officers have been preparing for the annual concrete canoe competition at this year's Gulf Coast Student Conference at Auburn University, Alabama. The conference will be held on March 31st- April 2rd, and we have been speaking to interested parties to help build our concrete canoe. Along with recruiting students to help design and build, we have been meeting with local construction companies and engineering firms who are willing to donate funds and materials to help cover the cost of build and travel for the conference competition. Gracious donors will be promoted on the back of our conference t-shirts, designed by MSU ASCE members. We will also be thinking of engaging fundraisers as an additional event to help cover our conference costs as well as an effort to bond with our existing members. As we continue our search for support, we will soon begin working with students and teachers to test mix designs for our concrete canoe.

Figure 1: MSU Student Chapter Officers (from left to right): Connor Broussard, Madison Fontenot, Juan Castano, Alexis Nguyen, Pavel Kraus, and Connor Moyor

SOUTHERN UNIVERSITY

By Jelani Smith, Student Chapter President

As the world slowly begins to "open back up", the SU Chapter of ASCE strives to embark on new opportunities and events that the pandemic precluded over the past year. With restrictions loosening on social distancing mandates, the SU Chapter is making more of an effort to accomplish student outreach and spread overall awareness (while still practicing safety, of course). This year, our main objectives are increase membership and active participation, to compete in the upcoming Deep South Conference, and offer professional development and guidance to undergrad students.

To date, the SU Student Chapter has held our first ever barbecue at the Pinckney Benton Stewart Pinchback Engineering Building, which hosted Patrick E. Carriere, Dean of Engineering at SU along with a myriad of other professors, staff, and students. Additionally, we plan on volunteering at this year's upcoming "Boo at the Zoo" which will be hosted at BREC's Baton Rouge Zoo. Altogether, this year should prove to be an exciting one for our ASCE SU Student Chapter. The civil engineering students at Southern University have patiently waited through this pandemic to be active and involved with ASCE and the community, and the time has finally come. The SU Student Chapter looks forward to the work we will accomplish and connections we will make throughout the year and many more to come through ASCE.

The 2021-2022 board for the Southern University Student Chapter of ASCE:
President: Jelani Smith
Vice President: Breshonski Jones
Recording secretary: Richodd Matthews
Corresponding Secretary: Rossano Bailey
Treasure: Tia Johnson
Membership Chair: Tyrick Jones
Fundraising Chair: Spencer Williams
Community Service Chair: Jaylyn Harrison
Public Relations: Courtlynn Thomas

— CALENDAR OF EVENTS —

2021-2022

February 9-11, 2022 Multi Region Leadership Conference, the Leader Training Committee prioritized safety over health risks and will be presenting the virtual version of the Multi Region Leadership Conferences.
Register through your ASCE account. CONTACT: Nancy Berson nberson@asce.org

Events are constantly being updated online:

For ASCE Society events please see online:
https://www.asce.org/conferences_events/
https://www.asce.org/student_conferences/

For ASCE Baton Rouge events please see online:
http://branches.asce.org/baton-rouge/events

For ASCE Shreveport events please see online:
https://www.facebook.com/ASCEShreveport/

For ASCE Acadian events please see online:
http://branches.asce.org/acadiana/events

For ASCE NOLA events please see online:
http://asceneworleans.org/events/

For more events visit the ASCE Events Calendar: **http://www.lasce.org/calendar.html**

PROFESSIONAL LISTINGS

PROFESSIONAL LISTINGS

PROFESSIONAL LISTINGS

LOUISIANA CIVIL ENGINEER
Journal of the Louisiana Section-ASCE
Kirk Lowery, PE, D.GE
9643 Brookline Ave.
Suite 116
Baton Rouge, LA 70809-1488

NONPROFIT
U. S. POSTAGE PAID
BATON ROUGE, LA
PERMIT NO. 1911

SERVICES AND SUPPLIERS